

REMARKS

Reconsideration of this application and the rejection of claims 1, 2, 5-15 and 17-21 are respectfully requested. Applicants have attempted to address every objection and ground for rejection in the Office Action dated August 10, 2006 (Paper No. 20060803) and believe the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

Claim 19 stands objected to because of an erroneous period at the end of the limitation. Accordingly, Applicants have deleted the period and respectfully traverse the objection of claim 19.

Claims 1, 5-8, 11, 15, 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nikolich (U.S. Pat. No. 5,115,944) in view of Colombo (U.S. Pat. No. 5,632,421). Nikolich discloses a valve assembly 16 including a tubular valve body 30 and a valve stem 32. As long as the valve stem 32 is depressed, fluid will be dispensed until the fuel cell is empty. Colombo discloses a metering valve 2 including a metering chamber 30 surrounded by a hollow cylindrical sleeve extending between two axially-spaced gaskets 12 and 14. (FIG. 1, col. 2, ll. 56-58).

Claim 1 has been amended to incorporate features of canceled claim 8 and now recites, among other things, "said fuel metering chamber includes a body defined by two components, one of which having a seal for engaging said main valve stem, said stem having a radially variable exterior contour periodically

sealingly engaging said seal such that in said closed position a non-sealing relationship is defined between said stem and said seal, and in said open position a sealing relationship is defined between said stem and said seal...”

Applicants submit that neither Nikolich nor Colombo, either alone or in combination, suggests or discloses all of the features recited in amended claim 1. In the closed and open positions in Colombo, respectively shown in FIGs. 1 and 5, the valve stem 16 defines a sealing relationship with the seal 14 in both positions. This is in contrast to amended claim 1, which recites, among other things, a non-sealing relationship between the valve stem exterior and the seal in the closed position (see left side of FIG. 1), and a sealing relationship between the valve stem exterior and the seal in the open position (see right side of FIG. 1). In Nikolich, an annular portion 54 of stem 32 defines a sealing relationship with seal 34 in the closed position (FIG. 4), and a non-sealing relationship with the seal in the open position (FIG. 5), which is opposite to the relationship now recited in amended claim 1.

Further, the valve stem 16 in Colombo does not have a “radially variable exterior contour periodically sealingly engaging said seal,” as recited in amended claim 1. Rather, as seen in FIGs. 1-5 of Colombo, the valve stem 16 has a constant radius with the exception of flange 18, which acts as a stopper and does not sealingly engage the seal 14.

Claim 15 has also been amended and now recites the following, among other things: “said fuel metering chamber being defined in part by a main seal forming a wall of said chamber and a body having a valve stem seal, wherein said stem includes a first diameter section defining a non-sealing relationship with said valve stem seal in said closed position, a second diameter section being enlarged with respect to said first diameter and defining a sealing relationship with said valve stem seal in said open position, and a third diameter section being reduced with respect to said first diameter and defining a clearance with said valve stem seal in said container filling position...”

As asserted regarding claim 1, in Colombo the constant outer diameter valve stem 16 defines the same sealing relationship with the seal 14 in the open, closed and container filling positions. (FIGs. 2-5). In Nikolich, the valve stem 32 has a first diameter 56 and a second, enlarged diameter 54. However, the first diameter 56 does not define a relationship with the seal 34, and the second diameter portion 54 defines a sealing relationship with the seal 34 in the closed position, opposite to the non-sealing relationship recited in amended claim 15 between the valve stem seal and the second diameter in the closed position. (FIG. 4). Further, Nikolich fails to disclose or suggest a third diameter portion as recited in amended claim 15.

Claim 19 has also been amended and now recites, among other things, “a combustion tool configured for receiving a fuel cell including a workpiece contact element associated with a linkage having an arm configured for

triggering the dispensing of a fuel upon movement of said workpiece contact element... and said fuel metering chamber is provided with a lip seal, such that in said closed position a non-sealing relationship is provided defining a fuel passage between said stem and said seal, and in said open position a sealing relationship is defined between said radially enlarged portion and said seal...”

Neither Nikolich nor Colombo, either alone or in combination, discloses or suggests a combustion tool having an arm that triggers fuel dispensing upon movement of a workpiece contact element, as recited in amended claim 19. Further, as asserted regarding claims 1 and 15, in Colombo, the valve stem 16 has a constant diameter and defines a sealing relationship with seal 14 in both an open and a closed position, and in Nikolich, the valve stem flange 54 defines a sealed relationship with seal 34 in the closed position and a non-sealing relationship in the open position, opposite the features now recited in amended claim 19.

Further, Applicants submit that there is no incentive or motivation to modify Nikolich as suggested by the Examiner. Even if Nikolich were to be modified as suggested, the invention as presently claimed would not be disclosed or suggested. Accordingly, Applicants respectfully traverse the rejection of claims 1, 5-8, 11, 15, 19 and 20 under 35 U.S.C. §103(a)

Claims 2, 9, 10, 12-14, 17, 18 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nikolich and Colombo in view of Tsutsui (U.S. Pat. No. 6,202,900). The arguments made above traversing Nikolich and Colombo are reasserted here. Tsutsui discloses a dispensing valve 10 including a

valve casing 12 configured for receiving a reciprocable valve pin 13. The valve casing 12 includes two annular grooves 16 and 17 including first and second seal rings 18 and 19 respectively fitted therein.

As shown in FIGs. 1-3, Tsutsui fails to disclose or suggest “a biasing element for urging said stem to said closed position, said biasing element located between said fuel metering chamber and said second end of said valve body...” as recited in amended claims 1 and 19. Rather, in Tsutsui, the valve pin 13 is raised and lowered by the gas pressure in gas bottle 11. Also, Tsutsui fails to disclose or suggest a lip seal as recited in amended claim 19. Rather, the seal 18 is inserted into annular groove 16 and is a radial seal or gasket that will not deform easily due to its placement within the groove, unlike the lip seal recited in amended claim 19. (See FIG. 1 of Tsutsui).

Further, with respect to claim 15, from which claims 17 and 18 depend, Tsutsui discloses a valve stem 13 having a first diameter section and a second, reduced diameter section defined by the groove formed from sections 25, 26. However, Tsutsui fails to disclose a third diameter section defining a clearance between the valve stem 13 and the seal 18 in the container filling position, as recited in amended claim 15 (see FIG. 3 of Tsutsui).

Applicants submit that there is no motivation or incentive to modify Tsutsui as suggested by the Examiner, because Tsutsui fails to suggest or disclose a flexible fuel cell container, as recited in amended claim 19. Modifying Tsutsui to include such a feature would require extensive modification. Further, even if

such a modification could be made, the invention as presently claimed would be neither disclosed nor suggested.

Applicants further submit that none of Colombo, Nikolich or Tsutsui, either alone or in combination, suggests or discloses all of the features recited in claims 2 and 17. Specifically, claims 2 and 17 recite, among other things, "said fuel metering chamber seal is a lip seal constructed and arranged to engage said enlarged portion in said open position..."

As shown in FIG. 1 of Colombo, the seal 14 is a radial seal or gasket that seals the constant outer diameter of the valve stem 16 during movement of the stem, and is not a lip seal as recited in claims 2 and 17. Referring to FIG. 4 in Nikolich, the seal 34 is a radial seal or gasket that defines a seal with the constant outer diameter of valve stem 52, and is not a lip seal as recited in claims 2 and 17. As asserted above with respect to amended claim 19, Tsutsui discloses seal 18 which is a radial seal or gasket that will not deform easily due to its placement within the groove 16. (See FIG. 1 of Tsutsui).

New claim 22 has been added and is submitted to be in allowable form. Applicants submit that none of the cited references, either alone or in combination, suggest or disclose a clamp ring as recited in claim 22. Colombo fails to disclose or suggest a clamp ring, and the clamp ring 82 in Nikolich sandwiches a portion of the inner bag 14 between a washer 90 and the clamp ring. (FIG. 4 of Nikolich). Tsutsui also fails to disclose or suggest a clamp ring as recited in new claim 22. Further, modifying Tsutsui to include a clamp ring would

require extensive modification because there is no separate flexible fuel cell container in Tsutsui. Also, even if such a modification were made, the invention as presently claimed would still be neither disclosed nor suggested.

Further, new claim 23 has been added and is submitted to be in allowable form. Applicants submit that none of Nikolich, Colombo or Tsutsui, either alone or in combination, suggests or discloses an arm that pivots about a pivot point during movement of the workpiece contact element, as recited in new claim 23.

Applicants contend that none of Nikolich, Colombo or Tsutsui, either alone or in combination, discloses or suggests all of the features recited in amended claims 1, 15 and 19, from which claims 2, 9, 10, 12-14, 17, 18 and 21 depend. Accordingly, Applicants respectfully traverse the rejection of claims 2, 9, 10, 12-14, 17, 18 and 21 under 35 U.S.C. §103(a).


In view of the above amendments, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be

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resolved by a telephone interview, he is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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